Upon relational table created in task-2, perform normalization up to BCNF based on given ~~Dependencies~~ Dependencies as following for the assumed relations specified below.

Step1: Employee Database.

1) Identify employee attributes: Employee_ID, Name, Department, Job_Title, Manager_ID, Hire_Date, Salary.

2) Define relational schema: Employee (Employee_ID, Name, Department, Job_Title, Manager_ID, Hire_Date, Salary).

3) Determine functional dependencies (FDs) b/w attributes:
   - Employee_ID → Name, Department, Job_Title, Manager_ID, Hire_Date, Salary.
   - Department → Manager_ID.
   - Manager → Name.

Step2: Convert to 1NF

1) Eliminate repeating groups or array (none in this example).

2) Create separate table for each repeating group (none in this example).

Step3.

1) Ensure each non-key attribute depends on the entire primary key.

2) Move non-key attributes to separate tables if key depends on only part of the primary key.
   - Create Department table: Department (Department_ID, Manager_ID, Name)

Task 8: Normalizing database using functional depending upto BCNF

Using Griffeth Tool.

1) Input relational schema and functional dependencies
2) Griffeth tool generates dependency graph
3) Analyze the graph to identify normalization issues
4) Apply normalization rules to tranform the schema.
5) Verify the resulting schema meets BCNF criteria.

Griffith Tool Steps.

1) Create a new project in Griffith
2) Define the relational schema and FDS.
3) Run the "Depending Graph" tool.
4) Analyze the graph for normalize issues.
5) Apply transformation using the "Normalize" tool.
6) Verify BCNF compliance using the "BCNF Check" tool.

Normalized schema.

1) Employe (Employee_ID, Name, Department_ID, Job_Title Hire_Date, Salary).
2) Department (Department_ID, Manager_ID)
3) Manager (Manager_ID, Name)

~~Step 4: Convert to 3NF & BCNF~~

Step 4: Convert to 3NF

1) Ensure there are no trasitive dependencies.
2) Move non-key attributes to seperate tables if they depend on another non-key attribute.

- Create Manager table: Manager (Manger_ID, Name);
- Update department table: Department (Department_ID, Manager_ID).

Step 5: Convert to BCNF

1) Ensure every determinet is a candiate key
2) Check for overlapping candide keys.
3) Decompose relations to elimate redundancy.

VEL TECH	
EX No.	8.
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	3
RECORD (4)	4
TOTAL (15)	15
SIGN WITH DATE	22/9/25

Result:

Hence, Normalization Database using functional dependency up to BCNF done successfully.

22/9/25